CHAPTER VIII

Mounting Pressure for Supplies

The fact that the emergency training program fed more than 240,000 Engineer officers and enlisted men into the Army in 1942 was cause enough for a substantial increase in requirements for engineer supplies. But requirements for organizational equipment, large as they were, accounted for but part of the soaring demand for engineer matériel in the months following the declaration of war. The urgent need for construction of overseas bases which had occasioned the rapid growth of engineer units themselves called forth an equally urgent requirement for machinery and materials over and above the organizational allowance to troops. Ultimately these Class IV supplies accounted for well over half the value of the Engineer procurement program.

Requisitions for Class IV supplies poured in during 1942 from Iceland, from the British Isles, from Alaska, from Australia, and from other far-flung areas where engineer troops had been sent to build—areas varying in climate, terrain, and degree of civilization. During the defense period the purchase of engineer equipment had been tied to the units then scheduled to be activated, to the task forces then deployed, and to the needs of Great Britain and other allies. What had been ordered had been issued as fast as produced. Pearl Harbor found the Corps with nothing in the way of a stockpile. For many months needs would be met from current production. Despite these meager resources it was reasonable to expect the Corps to continue to share with those nations that were engaging the enemy in a desperate holding action. So great was the demand for engineer matériel created by the growth of engineer units, by construction projects the world over, and by international aid that expenditures in 1942, although more than three times as large as those made during 1941, did not satisfy requirements.

The immense responsibilities which devolved upon OCE's military supply organization after Pearl Harbor amply justified the administrative change that on 1 December 1941 had raised the supply function to a co-ordinate level with operations and training. The Supply Division expanded rapidly from a staff of 210 in the summer of 1941 to 1,000 in the fall of 1942. This expansion was all the more notable since depot activities were increasing and field offices were absorbing more responsibilities for procurement.

It was fortunate that the Supply Division retained through the critical year 1942 many officers and civilians who had grown up with the organization—Colonel Chorpening as executive officer of the division, assisted by Charles G. Perkins; Col. Miles M. Dawson as chief of the Requirements, Storage and Issue Branch, assisted by Arthur E. Krum; Col. John S. Seybold as chief of the Procurement Branch, with Morris S. Denman as chief of the Purchasing Section; Lt. Col. Theodore T. Molnar as chief of the

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International Section; and Lt. Col. C. Rodney Smith as chief of the Maintenance Section. Their experience served them in good stead in guiding a program that was not only larger but infinitely more complex than the one carried on before Pearl Harbor.[1]

On a War Footing

At the time of the Pearl Harbor attack the Corps of Engineers had before Congress a request for $15,000,000 for construction materials and equipment for task forces totaling 130,000 men. After war broke out this sum was hastily multiplied by eight to provide for a force of 1,000,000. In justification of the $120,000,000 requested, the Supply Division submitted a thirty-page list of items, largely of the type required for defensive action in the Pacific—sandbags, barbed wire, piling, and some construction machinery. On 24 December 1941, a week after this $120,000,000 had been appropriated, G–4 directed the Engineers to compile estimates for the next appropriation bill. This time the Engineers put in for $522,288,929, a sum they estimated would provide initial issue and three months replacement of Class IV supplies for camouflage, demolitions, field fortifications, bridging, water supply, and airfield, railroad, and port and dock construction for a force of 1,000,000 men—10 percent for a frigid and 90 percent for a temperate climate. By the end of the fiscal year Congress had appropriated more than $1,353,000,000 for procurement and replacement of engineer matériel. Early in July when the appropriation for fiscal year 1943 was approved, the Engineers received over $582,000,000. Supplemental appropriations passed in the six months following Pearl Harbor added $847,000,000 to the Engineer procurement fund for international aid purposes, mostly for Great Britain.[2]

Immediately after the Japanese attack the Office of the Under Secretary of War had spelled out various ways to speed up procurement of supplies. Production must be put on a 24-hour a day, 7-day week basis. Supply services were authorized to negotiate supplemental agreements to reimburse contractors for extra costs due to overtime and shift work, to obligate funds by letters of intent, to use letter purchase orders in place of letter contracts in the absence of detailed specifications, and to make advance payments on both letter contracts and letter purchase orders. Contracting officers were permitted to issue mandatory orders if manufacturers did not proceed promptly with production. The authority of chiefs of services to approve contracts jumped from $500,000 to $5,000,000. Early in March advertising for bids was prohibited. Henceforth all contracts were to be negotiated, although informal bids could be taken if there were sufficient time. Through the Renegotiation Act of April 1942 the services were freed of the obligation to fix a final price at the time the contract was signed. Bills would be settled later when more was known about

[1] (1) Orgn Charts, 1 Dec 41, 2 May 42. EHD files. (2) Rqmts Br Diary, 26 May 42.

[2] (1) Fiscal Liaison Office files, 2d Supplementary Estimate FY 1942, Supplementary Estimate "D" FY 1942, and Supplementary Estimate "E" FY 1942. (2) Ltr, ExO Sup Div to ANMB, 17 Dec 41, sub: Asgmt of Priority Ratings. 400.1301. (3) Memo, AC O&T for C of Sup Div, 17 Dec 41, sub: Rev of Engr Rqmts List. 400.34. (4) Memo, C of Sup Div for C of Legislative and Plan Br WDGS, 5 Feb 42, sub: Other Rqmts as Listed in Supplementary Estimate "D" FY 1942. Rqmts Br file, Gen Staff G–4. (5) Incl, Justification of Rev Estimate FY 1943, with Memo, AC Rqmts Br for C of Sup Div, 10 July 42, sub: Changes in Consolidated Rev Estimate FY 1943. Intnl Div file, 111 (1942).

over-all costs and profits. Finally, the Under Secretary's Office urged that the administration of the procurement program—the award of contracts and their follow-through—should be decentralized to the field to the maximum extent consistent with efficiency and the safeguarding of the public interest.[3]

During the defense period the Corps of Engineers had centered procurement in Washington. To be sure the civil works districts had inspected the products of manufacturers and the procurement districts had investigated potential suppliers, assisted with inspection, and on occasion engaged in that mysterious activity known as expediting. But all contracts had been let by the Procurement Branch in OCE. Anticipating a larger volume of purchasing in 1942 and faced with a shortage of applicants for jobs in Washington, the Supply Section had in September 1941 readied the procurement districts for activation in accordance with mobilization plans.[4]

As conceived in the plans drawn up in the twenties and thirties the six procurement districts—New York, Philadelphia, Pittsburgh, Mobile, Chicago, and San Francisco—were to be entirely separate from the civil works districts of the Engineer Department. The realities of 1942 did not jibe with these plans. Upon activation of the procurement districts in November 1941, only one Reserve officer with purchasing experience sufficient to take charge of a procurement district could be found. Plans were promptly modified and District Engineers assumed direction of procurement districts. This linking of military procurement to the Engineer Department came at the same time that the civil works districts were absorbing the vast responsibilities connected with the supervision of the military construction program. Thus several weeks elapsed before the procurement districts could award any contracts at all. After the field had surmounted the initial administrative adjustments, the Procurement Branch began to forward to the procurement districts requisitions to purchase the thousands of low-priced, common garden variety of supplies for which the Engineers had procurement responsibility and for which there were a multitude of suppliers all over the country. The Procurement Branch continued to handle the big contracts for the more costly and special types of equipment and materials for which suppliers were few and demand was heavy. Under this division of work the procurement districts were soon awarding many more contracts than OCE, but OCE still obligated approximately 90 percent of the funds.

In the summer of 1942 SOS began to press all the services for a maximum decentralization of procurement activities. Congressional representatives and businessmen, particularly small businessmen, viewed decentralization as a way to achieve a greater distribution of orders. Washington was already overcrowded and far from the sources of production. To decentralize seemed efficient and economical. In resisting this pressure the Engineers could argue that so far as small business was concerned the procurement districts were already handling the contracts that would normally

[3] (1) Smith, The Army and Economic Mobilization, Ch. VII, pp. 57–77, 94, 104–07; Ch. XII, pp. 6–10. (2) Memo, USW for Cs of Sup Arms and Svs, 8 Dec 41. USW file, 004.401, Production. (3) Memo, USW for CofEngrs *et al.*, 17 Dec 41, sub: Decentralization of Proc. 400.12, Pt. 109.

[4] Except as otherwise noted, the following discussion of administration is based upon: (1) Rpt, Mgt Br, Orgn for Engr Proc, 7 Oct 47, EHD files; (2) Wkly Rpts Sup Div; and (3) ExO Proc Div file, Misc Corresp.

flow to such concerns. Through the inspectors and expediters in the civil works districts the Corps was kept close to its sources of production. The Supply Division could also point to a number of reasons why it seemed desirable at least to postpone turning over any more work to the field. For many items, specifications were incomplete. In numbers of cases the time limit for purchases was extremely short. With the field offices still deeply involved in the military construction program, supervision of personnel in the procurement districts would probably be inadequate. Of greatest concern to the Supply Division, however, was the possibility that the transfer of all procurement action to the field would result in loss of control over the major items. The procurement districts were organized on a *territorial* basis. Purchase of searchlights, tractors, landing mat, and similar supplies should be made without regard to territorial divisions, on a *centralized* or *commodity* basis.

By the fall of 1942, some of these arguments were no longer valid. Of prime importance was the fact that the military construction program was on the wane, making available to the military procurement program numbers of persons experienced in the ways of conducting government business. In the face of continued pressure from SOS the Supply Division gradually transferred more and more responsibility to the field. By the end of September the system had been stabilized. Under the new setup commodity purchasing of certain key items was assured. The Chicago procurement district, located in the heart of the construction machinery industry, contracted for all tractors and cranes; New York, for searchlights; Philadelphia, for sandbags and camouflage nets; Pittsburgh, for barrage balloons. For the vast number of supplies not purchased on a commodity basis the Procurement Branch forwarded requisitions to procurement districts on the basis of known available facilities, the needs of small business and of distressed areas, and consideration as to the final destination of the product. On all items the Procurement Branch retained control over scheduling, priorities, and other matters which an economy of scarcity imposed. The procurement districts, whether purchasing on a commodity or on a decentralized basis, negotiated all contracts and followed them through to completion, calling on inspectors and expediters in other civil works districts and on materials and production experts in the Supply Division, OCE, for assistance as necessary.[5]

In letting and supervising contracts the Procurement Branch and the procurement districts availed themselves of most of the devices for accelerating the work that had been recommended by higher authority, but with a wary eye on the possibility of Congressional investigations, they exercised caution. Thus they discouraged the use of letters of intent, but did at times resort to them. They did not have to carry through on any compulsory orders but did threaten to employ them in order to get contractors to accept terms considered reasonable. Al-

[5] (1) Prod Liaison Subsec, Proc Opns, CE, 1943. EHD files. (2) Memo, CofEngrs for Dir Purch Div SOS, 29 Jan 43, sub: Special Proc of Trp Sup by CE, with Incl 2, n.d. 400.12 (C), Pt. 1. (3) Erna Risch, *The Quartermaster Corps: Organization, Supply, and Services, Volume I,* UNITED STATES ARMY IN WORLD WAR II (Washington, 1953), pp. 251–52. (4) Memo, C of Alloc and Contract Br Proc Sv for C of Co-ordinating Sec, 2 Jul 43, sub: Ann Rpt ASF, 1943. Basic Materials for Ann Rpt 1943 in EHD files. (5) Min, Staff Conf SOS, 16 Sep 42. 337, Staff Confs ASF (S).

though formal advertising was out, they encouraged the taking of bids. But in other cases where costs could not be ascertained, they used short term experimental contracts subject to price revision instead of insisting on detailed estimates. The districts placed contracts at the best price obtainable, and then, if satisfied that the price was too high, referred the contract to OCE for redetermination. By the end of March 1942 the authority of the chiefs of the Procurement Branch and of the procurement districts to approve contracts had been increased from $2,000,000 to $3,000,000. The chief of the Supply Division could approve those above that amount up to the $5,000,000 limit reserved for approval by higher echelons.[6]

Valuable as were these measures for speeding up the contracting process and insuring round-the-clock production, they fell far short of solving the basic problems of industrial mobilization for war. To a much greater extent than during the defense period the nation's economy had to be regulated; its facilities, its materials, its products, controlled and allocated. On 16 January 1942, the President created a new agency, the War Production Board (WPB), to handle this gigantic task, abolishing the Office of Production Management which had guided the partial mobilization of the previous year. The primary task which faced the WPB was the balancing of the nation's wartime requirements with the nation's resources. The WPB needed to know in as specific terms as possible and as far ahead as possible what all the claimants on the nation's production—civilian and military—required. The SOS attempted to provide such information for the Army in the Army Supply Program (ASP).

The major component of the ASP was a translation of the troop basis into the quantities of items required and the dates when given quantities had to be available. The quantities set down were the sum of (1) initial allowances, (2) allowances for the replacement of equipment worn-out, destroyed, or lost, and (3) allowances for supplies in transit or in storage. To the totals thus arrived at were added requirements for international aid, for task forces, and for special operations insofar as these were known. The resulting compilation was subsequently checked with the production experts to determine need in terms of raw materials, facilities, and labor. Adjustments to insure "a practical, over-all program" followed. As published quarterly the ASP stated total required production for major items in terms of time objectives, giving procurement goals by calendar years and on-hand figures of the amounts in depots and assigned to troops as of the beginning of the year. The ASP had many uses. It served as the basis for allocations of materials and for the assignment of priorities. It was a primary source for the preparation of budget estimates. It was a measure of progress, revealing slippages in the procurement program, and thus served as a starting point for action to correct such slippages.

The ASP's accuracy and consequently its value as an instrument in planning depended on the reliability and coverage of the sources used in its compilation. During 1942 many of the sources were unreliable,

[6] (1) Memo, Contracts and Claims Br Adm Div for Legal Br Purch Div ASF, 28 May 43, sub: Proposed Rev of WD Proc Regulation 3. 300.8, Proc Regulations. (2) Memo, Contracts and Claims Br Adm Div for Legal Br Purch Div ASF, 15 Jul 43, sub: Proposed Regulations in re Compulsory Orders. Same file. (3) C/L 1559, 4 May 42, sub: Negotiation of Contracts and Purch. (4) Memo, ACofEngrs for Dir Purch Div SOS, 27 Nov 42, sub: Memo on Statement of Purch Policy. ExO Proc Div file, ASF.

incomplete, and above all, subject to frequent change. The troop basis fluctuated violently. T/BA's, replacement factors, and distribution factors came in for considerable revision. Requirements for task forces and for special operations overseas, a category of supply in which the Corps of Engineers carried exceptionally heavy responsibilities, proved almost totally unpredictable. The bulk of these special requirements never appeared in the ASP at all. They were met during 1942, as they had been previously, on an emergency basis.[7]

This was particularly true during the early months of the year. The Supply Division made up approximately two thirds of an urgent requisition from Hawaii out of secondhand, obsolete machinery. The remainder was bought with funds appropriated for the engineer theater of operations stockpile. The engineer stockpile did not represent any reserve of equipment and materials. Stockpile was a figure of speech, a bookkeeping term, used to cover all Class IV supplies.[8]

Pooling Production

Whether purchased as Class IV or as Class II supplies, or to meet the needs of allies, construction machinery was the most important category of engineer requirements. (*Chart 3*) In 1942 tractors and other construction machinery composed almost 40 percent of the $651,000,000 worth of Engineer deliveries. The industry which manufactured these machines included about 200 firms. There were four manufacturers of the type of tractor used for construction work: Allis-Chalmers Manufacturing Company, Caterpillar Tractor Company, Cleveland Tractor Company, and International Harvester Company. In 1939 these four firms had produced approximately 20,000 tractors, but many of these were low-powered machines for which military demand was small. The crane and shovel industry had produced an average of 3,000 units annually in peacetime. During 1942 Engineer procurement alone was to amount to approximately the $250,000,000 annual business the construction machinery industry had averaged just prior to the war. The Corps of Engineers was naturally at pains to emphasize its interest in and claim upon the products of this industry.[9] Late in January, at a conference with Lt. Gen. William S. Knudsen, Director of Production in the Office of the Under Secretary of War, Reybold expressed his fear "that they may convert some of those large machinery plants." This exchange then ensued between Knudsen and Fowler, Assistant Chief of Engineers for Supply.

Knudsen: "If you had to choose between tanks and shovels, I'm afraid shovels are going to get hurt."

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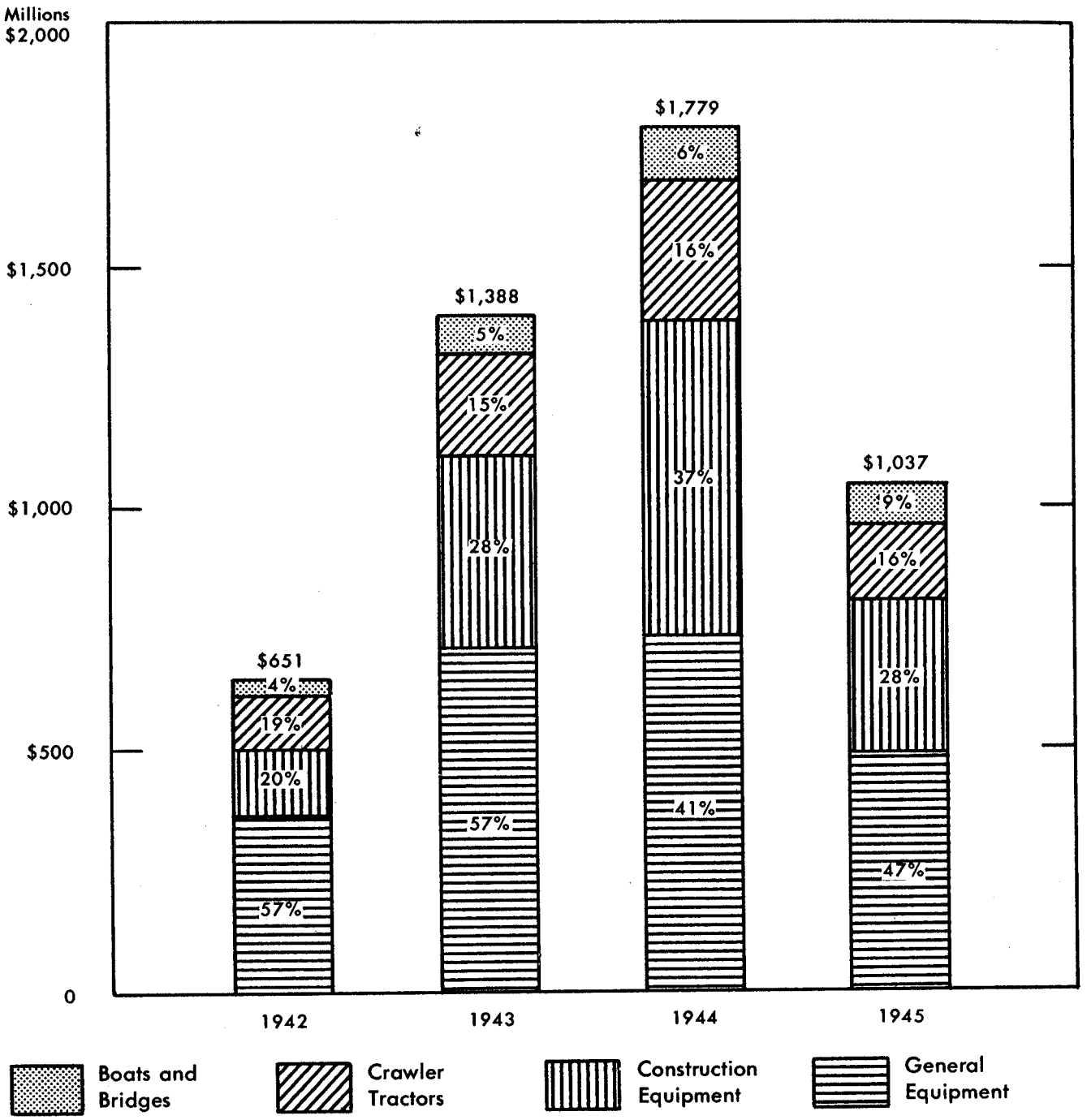
[7] (1) Leighton and Coakley, *Global Logistics,* pp. 296–97. (2) Adm Memo 38, Hq SOS, 16 Sep 42. (3) Maj Harry F. Kirkpatrick, Dev of Sup Plan for Engr Class IV Sup (typescript), 20 Dec 45. EHD files.

[8] (1) Ltr, C of Rqmts Br to CG Hawaiian Dept, 26 Feb 42, sub: Recapture of Equip, with Incl. 400.31, Hawaiian Dept, Pt. 1. (2) Memo, C of Sup Div for ACofS G–4, 9 Mar 42, sub: Equip for Hawaiian Dept. Same file. (3) Memo, C of Rqmts Br for All Concerned, 24 Feb 42, sub: Methods of Operating TofOpns Stockpile. EHD files.

[9] (1) Richard H. Crawford and Lindsley F. Cook, "Procurement," a chapter in Statistics, a volume in preparation for the series, UNITED STATES ARMY IN WORLD WAR II, p. 16. (2) Sixteenth Census of the United States: 1940, Manufacturers, 1939, Vol. II, Pt. 2 (Washington, 1942), 423. (3) "American Tractors," *Automotive Industries,* LXXXIV, (March 1, 1941), 236–37. (4) History of the Construction Machinery Division of the War Production Board and Predecessor Agencies, 1941–1945 (typescript) (hereafter cited as Hist of Constr Mach Div WPB). EHD files.

CHART 3—VALUE OF ENGINEER SUPPLIES PROCURED BY MAJOR CLASSES OF EQUIPMENT: 1942–45



Source: Crawford and Cook, *op. cit.* pp. 15–16.

Fowler: "Your planes can't fly without airfields and you have to have the heavy machinery to make airfields."

Knudsen: "The best thing you can do is find a flat spot and use a scraper."

Fowler: "You can't make those things by hand labor. You've got to have . . . mechanical equipment."

Knudsen: "Well, take the next [item]." [10]

The Engineers did lose some facilities to tank and to other munitions production during the early months of 1942. During this same period, however, the intrinsic relationship between construction machinery and the world-wide logistical effort was clearly demonstrated, and, although it was not until December that the WPB declared tractors a military item, the Engineers, with the help of WPB's Construction Machinery Division, succeeded in preventing further diversion of facilities.

Equally important were the actions taken by WPB to channel production to the military. In the first of a series of "limitation orders" issued on 19 February, the WPB prohibited the sale or delivery of new track-laying tractors to purchasers lacking a preference rating higher than A–2. On 2 May, WPB issued a similar prohibition to control the distribution of cranes and shovels. This assistance, plus the introduction of multiple shifts, extensive subcontracting, and complete use of plant that had remained partially idle in peacetime, resulted in a substantial increase in the quantities of construction machinery available to the Corps. Nevertheless, demand soared completely out of reach of manufacturing capabilities. Time was to prove that the construction machinery industry required more plant. During 1942 the supply of raw materials, particularly steel, was the determining factor in the production, not only of construction machinery, but of nearly all other types of equipment procured by the Engineers, as indeed it was the determining factor in the nation's over-all productive effort.[11]

Since this fact was becoming more evident each day, the Supply Division entertained little hope of success in getting more steel and saw little point in advocating an expansion of facilities. The division endeavored instead to extend its control over the distribution of construction machinery. As the situation stood at the beginning of 1942 there were a number of legitimate claimants for the products of the construction machinery industry. Farmers had to have tractors. Other segments of the civilian economy needed shovels and road graders, if only for purposes of repair. OCE's Construction Division had to see that its contractors had the machinery required to finish Army camps and munitions plants speedily. The Navy, the Marine Corps, and the Ordnance Department were all in the market. Foreign countries, Great Britain in particular, had also requested large quantities of construction machinery. It was by way of international aid, in fact, that the Corps of Engineers acquired the desired measure of control over the distribution of construction machinery and other scarce items of engineer equipment.

According to the agreement announced by Roosevelt and Churchill in January 1942, the military resources of both the United States and Britain were to be placed in a "common pool, about which the fullest information will be interchanged." [12]

[10] Memo for File, 24 Jan 42, sub: Notes Taken at Knudsen's Conf, 24 Jan 42. 400.12 (S), Pt. 1.

[11] (1) Hist of Constr Mach Div WPB. (2) Rqmts Br Diary, 8 May 42.

[12] Quoted in Leighton and Coakley, *op. cit.*, p. 252. The following discussion of methods of administering international aid is based upon Chapter X of this book.

The common pool implied that supplies would be distributed on the basis of greatest need. The British were prone to define this in terms of troop deployment in active theaters; the Americans, to insist that they must assure equipment to their own rapidly expanding Army and build up a reserve for the future deployment of that Army. Even with the best of good will (and this was abundant on both sides), it was easier to arrange for interchange of information than to decide upon what facts were pertinent to present or upon how to apply the facts once presented. The War Department developed elaborate procedures for exchanging information and for arriving at decisions for distribution of matériel in the common pool. (*Chart 4*)

As applied to the Corps of Engineers, the foreign country submitted its requirements to Major Molnar's International Section about two months before a revision of the ASP. After the interested offices in the Supply Division had studied these requirements in relation to the total procurement program, availability of materials, and so forth, the International Section recommended for or against approval. Dawson as chief of the Requirements Branch and Fowler as chief of the Supply Division either affirmed or vetoed this recommendation, which was then forwarded to the Engineer Subcommittee of the International Supply Committee. The International Supply Committee was composed of representatives of SOS, the General Staff, and the country to be supplied. The Engineer Subcommittee of the International Supply Committee was composed of representatives of the Supply Division and of the country to be supplied. Whether approved or disapproved by the Engineer Subcommittee, requirements went to the International Supply Committee for further action. Upon approval by the International Supply Committee, they were forwarded to the Requirements Division, SOS, which included them in the ASP, if approved. If that office disapproved, the British could appeal to the Munitions Assignments Board (MAB), the joint U.S.-U.K. body established by the Combined (U.S.-U.K.) Chiefs of Staff to preside over the assignment of all military items.[13]

The requirements submitted by foreign countries fell into two broad categories of items: common and noncommon. Noncommon items were those not needed by the U. S. Army. Once these items were authorized for procurement, the requisitioning country stood an excellent chance of getting them. But since their procurement might interfere with the general productive effort, SOS was anxious to keep this type of international aid to a minimum. The temptation to seek large quantities of noncommon items was considerably weakened by the fact that priorities assigned them were generally low and by the fact that a majority of members of the International Supply Committee were in agreement with SOS policy. The trend toward procurement of common items was steadily upward. In 1943 common items accounted for approximately 20 percent of international aid expenditures made by the Corps of Engineers; in 1944, for 60 percent; in 1945, for 75 percent.[14]

Common items enjoyed a much more favorable delivery schedule than did noncommon items, but they were subject to

[13] Rpt, Col Beverly C. Snow, 21 Oct 42, sub: Study of Intnl Br Sup Div OCE (hereinafter cited as Snow Rpt). EHD files.

[14] (1) International Aid [c. 1 Oct 42]. Intnl Div file, 310.1. (2) Testimony, Reybold, H Subcomm on Appropriations, *Military Establishment Appropriation Bill, 1946, Hearings,* p. 616.

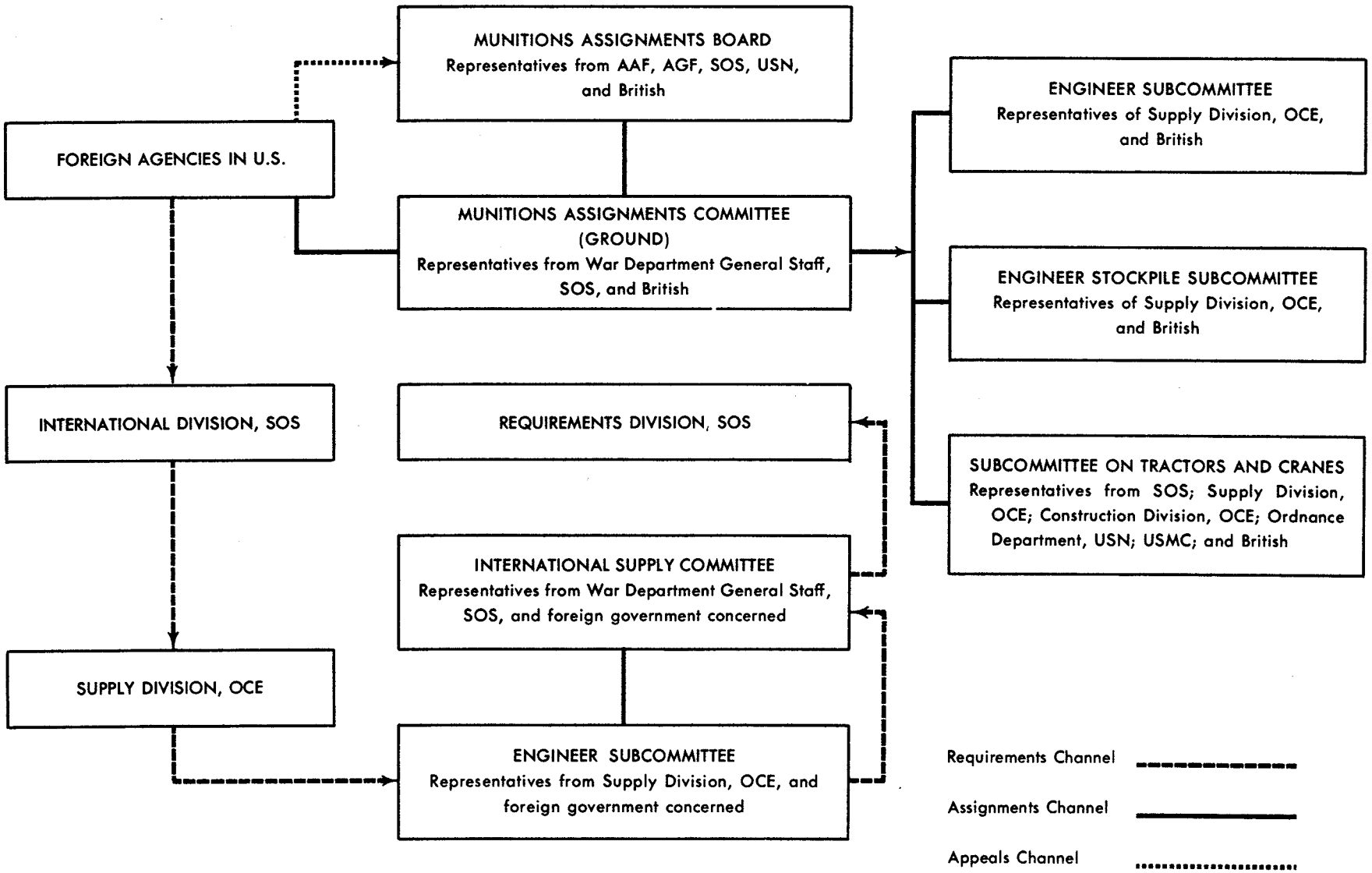
BRIG. GEN. RAYMOND F. FOWLER, *Assistant Chief of Engineers for Supply, January 1942 until June 1944.*

closer scrutiny on the part of the Army when it came to releasing them to international aid account. Their inclusion in the ASP at the behest of a foreign country did not guarantee their assignment to that country. The situation in regard to greatest need could change radically between the time the product was included in the ASP and the time of its delivery. The ultimate authority on assignment was the Combined Chiefs of Staff, but relatively few cases were appealed that high. Usually appeals stopped with a decision of the Munitions Assignments Board. MAB delegated its work to committees, the one applicable to the Corps of Engineers being the Munitions Assignments Committee (Ground). Like the International Supply Committee which passed on requirements, MAC(G), which passed on assignments, came to be dominated by SOS. SOS had greater representation than any other group. More important, it was SOS which did the staff work, SOS which indicated the point where international aid encroached upon the needs of the American Army. Yet the over-all guiding principle upon which decisions were made remained military strategy. For this reason the member from the Operations Division, General Staff, was always listened to respectfully. As to the British member, in view of the appeal procedures open to him and the political pressures he could exert at yet higher levels, the American side of the table would scarcely have had the temerity to attempt to push him around. The Engineer Subcommittee of MAC(G), formed of representatives of the Supply Division and of the British Army Staff, took its cue from the sponsoring authority. It was in the Engineer Subcommittee that the lengthy exchange of information took place and it was here that most decisions on assignment were reached. Molnar recalled that many decisions had to be reached on the basis of scanty information. No doubt the foreign representatives experienced not a few difficulties in extracting thoroughgoing justifications from their home governments. The Supply Division itself was to experience similar difficulties in securing information from theater commanders in the later years of the war.[15]

In the early months of 1942, however, the Engineer Subcommittee was passing upon a very small portion of the total of engineering supplies being procured for the British. Most of the British international aid funds for this type of equipment—$100,000,000 of the $102,000,000 then available—were in the hands of the Treasury

[15] (1) Snow Rpt. (2) Ltr, Molnar to C of Engr Hist Div, 26 Mar 55. (3) See below, pp. 500–502.

Chart 4—Organization and Procedures for Handling International Aid



Department in line with that agency's responsibility for procuring civilian goods for international aid. Priorities for this "nonmilitary" equipment were generally low. In March 1942, with 2,300 tractors requisitioned, some of them as far back as August 1941, the British had been given to understand they could expect no deliveries until the following December. The British were reasonably assured of faring better if the Corps of Engineers took over procurement from the Treasury Department. The Corps viewed this transfer of procurement responsibility not only as an opportunity to help the British, with whose position it was sympathetic, but also as a means of gaining a larger voice in the production and distribution of construction machinery. In May 1942, final arrangements for this transfer were made.[16]

Meanwhile the Supply Division, voicing alarm over the great discrepancy between tractor production and the known requirements of the several claimants, called upon SOS to arrange either for allocation of tractors or for sufficiently high priorities to satisfy emergency requirements. Brig. Gen. Lucius D. Clay, SOS Deputy Chief of Staff for Requirements and Resources, acted immediately. By the end of April, Clay had got WPB to agree to assign 85 percent of tractor production to the armed forces and the armed forces to agree to centralize procurement of tractors of the prime mover type in the Ordnance Department and those of the construction type in the Corps of Engineers. John H. Hassinger, commissioned a major in the Corps of Engineers, transferred from the Construction Machinery Division, WPB, to take charge of this program. Methods of allocation followed the general pattern established for the administration of international aid. MAB, subject to the Combined Chiefs of Staff, had ultimate authority which was delegated to MAC(G). Hassinger became chairman of an advisory committee composed of representatives of the claimant agencies, including the British Army Staff, and SOS. This committee became the Subcommittee on Tractors for MAC(G) and as such usually had the final word on their assignment.[17]

The next agreement involving procurement and assignment to which the Engineers became a party embraced the whole category of construction machinery and more, and resulted in a unique arrangement in the administration of international aid. Within the Corps of Engineers the conviction that Americans had first call upon American production was as strong as in SOS headquarters and was to grow stronger as production failed to measure up to early expectations. In the first months of 1942, however, the Engineers showed considerable concern over the fact that deliveries to the British were lagging far behind stated needs. Early in June 1942 Fowler asked Clay whether he would approve the establishment of an Engineer-British strategic

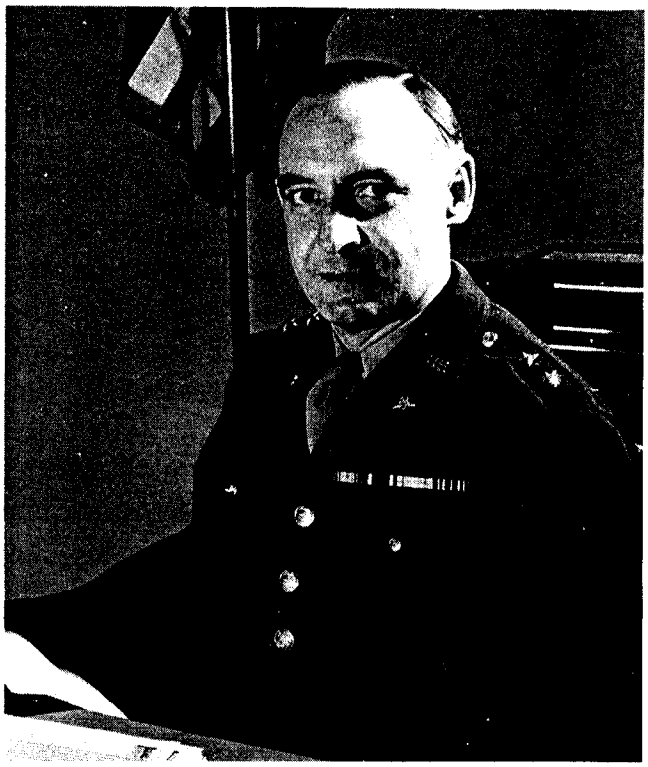
[16] (1) 1st Ind, 26 Feb 42, on Ltr, British Army Staff to DCofS, 14 Feb 42. 400.333, England, Pt. 2. (2) Memo, C Engr British Army Staff for Comdr British Army Staff, 5 Mar 42. Intnl Div file, 451.3, Alloc. (3) Memo, C of Sup Div for DA Dir SOS, 26 Feb 42, sub: Proc of Tractors on DA. 400.333, Pt. 2. (4) Memo, Dawson for File, 6 May 42. Intnl Div file, 040, Treasury Dept.

[17] (1) Ltr, Sup Div for CG SOS, 30 Mar 42, sub: Rev of Priorities on Tractors. 400.1301, Pt. 5. (2) Memo, Maj W. W. Goodman for Secy MAC(G), 10 Apr 42, sub: Tracklaying Tractor, Long Range Alloc for Approval (Not Asgmt). Constr Mach Br file, Procedure for Alloc Tractors. (3) Hist of Constr Mach Div WPB. (4) Memo, Chm Tractor Subcomm for Members, 22 Jul 42, sub: Tractor Subcomm Mtg. Proc Div file, WD Conf Group for Tractors and Cranes. (5) Intnl Div ASF, Lend-Lease as of 30 Sep 45, Vol. I, pp. 261–62. (Hereinafter cited as Intnl Div ASF, Lend-Lease.)

reserve. The idea had been germinating for some time. In January Brigadier W. E. R. Blood and Colonel Chorpening had agreed upon the desirability of maximum standardization of British and American supplies.[18] In February, Reybold had urged upon the Deputy Chief of Staff a number of steps to increase the quantities of matériel being transferred to the British—specifically that the British Isles be counted a theater of operations and equipment earmarked for use there be upgraded accordingly, that equipment for British units already organized or soon to be activated be afforded the same priority as similar equipment for American units, and that "a reasonable stock pile, the size of which is to be determined by agreement between Brigadier Blood and my office, be considered an urgent necessity for the conduct of the war . . . ." [19] The Deputy Chief of Staff preferred that higher priorities be sought on a case by case basis.[20]

But the idea of the stockpile would not down. The Engineers had long sought a reserve. They wanted to stop having to fall back upon secondhand machinery to fill emergency requisitions. They wanted to be able to avoid situations such as had occurred late in March when a large and urgent requirement for construction machinery in Australia and New Zealand had forced them to figure out what could be spared from troop stocks and what they could gather together by transfer from the military construction program. They reasoned that more headway could be made if American and British needs were lumped together.[21]

Both General Clay and Col. Simon N. Frank, the chief of the Requirements and Resources Division, SOS, threw quick support behind the project. The maximum number of items should be included, Clay



MAJ. GEN. LUCIUS D. CLAY, *SOS Deputy Chief of Staff for Requirements and Resources. (Photograph taken 1943.)*

directed, and he promised them highest priority. Brigadier Blood, for the British, was equally enthusiastic. He believed that 90 percent of engineer items required by the United Kingdom could be designated common. On 13 July the International Supply

[18] (1) Memo, C of Sup Div for ANMB, 28 Mar 42, sub: Priorities on British DA, 5th Supplemental, 1942. Intnl Div file, 400.1301, Pt. 5. (2) Ltr, Sup Div to CG SOS, 30 Mar 42, sub: Rev of Priorities on Tractors. Same file. (3) Intnl Sec Diary, 10 Jun 42. (4) Memo, C of DA Sec for File, 29 Jan 42. Intnl Div file, 451.3.

[19] 1st Ind, 26 Feb 42, on Ltr, British Army Staff to DCofS, 14 Feb 42. 400.333, England, Pt. 2.

[20] 2d Ind, 2 Mar 42, on ltr cited n. 19.

[21] (1) Ltr, C of DA Sec to WPD WDGS, 27 Mar 42, sub: Constr Engr Equip for Australia and New Zealand, with Ind, n.d. Intnl Div file, 400.333, Australia. (2) Memo, C of DA Sec for Major Malloch, 1 Apr 42, sub: Tractors and Constr Equip for Australia and New Zealand. Same file. (3) Ltr, Brig Gen Miles M. Dawson to Actg C of EHD, 31 Mar 55.

Committee reviewed a long list of 300 common items as agreed upon by representatives of Blood's office and the Supply Division, OCE. For each item listed there were shown American and British requirements, minimum and maximum amounts to be stocked, and estimates of production by quarters through the year 1943. The International Supply Committee accorded immediate approval for procurement of the quantities set forth in the list.[22]

The harmony that had prevailed during negotiations about the common stockpile was soon marred by a few sour notes. The Engineers had understood they would control assignments. The British protested. This particular quarrel and other matters of disagreement came up before MAC(G) on 3 September. In an atmosphere described as tense, the British proposed that production anticipated in the following month be considered in making assignments. Clay supported the Engineers' objection. Apparently the British wanted a stockpile and not a stockpile, the general observed sarcastically. He would move that the stockpile revert to the Engineers and that the British bid for items in the usual way. After the British withdrew their original motion, Clay supported them completely in their insistence that the Engineers be required to submit bids to the engineer stockpile subcommittee which was being organized under MAC(G) and in case of failure to reach unanimous agreement to appeal the case to the higher body. The Corps of Engineers continued to protest this ruling which would have established the strange procedure of a component of the American Army justifying claims on the products of American industry. On 16 October, MAC(G) reversed itself. Henceforth only the British would be required to bid. If the stockpile subcommittee unanimously agreed to approve the requisition and the items requested were physically on hand, assignment would be automatic. Otherwise, the British could take the usual course of appeal to MAC(G). The engineer stockpile subcommittee thus had a freer hand in the distribution of supplies than did the Engineer Subcommittee or the Subcommittee on Tractors, for although in practice the unanimous recommendations of the latter two subcommittees were usually followed by MAC(G), MAC(G) did review these recommendations and could reverse them.[23]

Through the transfer of a large slice of procurement responsibility from the Treasury Department, centralization of the procurement of tractors, and creation of the common stockpile, the Corps of Engineers made noteworthy progress toward administrative control of the items most vital to the performance of engineer troops. This control was to mitigate somewhat the effect of delays in the production of engineer equipment.

The Crisis in Production

Production had been greatly accelerated in the six months after Pearl Harbor and was expected to rise at a still more rapid rate during the second half of 1942. Yet the prevailing mood was one of scarcity, and with good reason. In the summer of 1942 the

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[22] (1) Intnl Sec Diary, 10 and 11 Jun 42. (2) Rqmts Br Diary, 23 Jun 42. (3) Min, Engr Intnl Sup Subcomm, 6 Jul 42. Intnl Div file, 334, Min of Engr Intnl Sup Subcomm. (4) 2d Ind, 16 Jul 42, on Memo, Comdr British Army Staff for ExO MAB, 10 Jul 42, sub: Engr and Trans Stores. Intnl Div file, 334, Intnl Sup Subcomm.

[23] (1) Memo, C of Intnl Sec for C of Rqmts Br, 4 Sep 42, sub: MAC Mtg, 3 Sep 42. Intnl Div file, 334, MAC. (2) Intnl Div ASF, Lend-Lease, pp. 487–88.

steel shortage hit the nation with full force. True relief from the shortage awaited the opening of new steel plants. Meanwhile the war agencies could but intensify the remedies applied previously. Efforts could be made to reduce demand, particularly civilian demand, and attempts could be made to substitute more plentiful materials for steel. After these avenues, which were not extensive, had been explored to their limits the supply had to be divided on the basis of the relative importance assigned the various military programs.

The development of an equitable and workable system of dividing up the supply of raw materials was the most challenging problem which faced the WPB during 1942. Dependence upon priorities to accomplish a rational distribution, although almost completely discredited, persisted in the absence of anything better. Various allocations systems, administered according to the historians of the WPB largely by inspiration, were scarcely superior. In June the ANMB superimposed on the A–1 series a hierarchy of priority ratings—AA–1 to AA–4 with an AAA reserved for emergencies. Although this directive marked an improvement over those issued previously because it took quantities into account, production of the quantities contained therein would have consumed practically all of the supply of critical raw materials. Indirect military and essential civilian needs—domestic and Allied—were left to go begging until the WPB succeeded in slipping in an AA–2X band in August.

The unanimous disapproval with which the WPB staff greeted the new priorities directive doubtless spurred that agency to adopt a master system, the Production Requirements Plan (PRP), for the allocation of materials. Under PRP, manufacturers applied to WPB for blanket priorities for materials needed for the next three months and WPB tried to allocate only the amount that would be available within that period. In point of fact the WPB had to base its allocations upon the very priorities it had called into question and at a time when manufacturers were scrambling to get orders rerated under the new directive. Hastily introduced and not universally popular within the WPB itself, PRP suffered from an unusually large number of administrative and mechanical difficulties which generated much criticism. As it operated in the third quarter of 1942 the system was vulnerable on another and more basic score: it did not accomplish its main objective of bringing about a balance between the supply of raw materials and scheduled production.[24]

In line with a formula established by the ANMB for assigning the new priority ratings, 50 percent of engineer Class II equipment slated for production in 1942 automatically received the top AA–1 rating; the remaining 50 percent, AA–2. No such formula was applied to Class IV and international aid. Ratings for such supplies were thereupon established by the ANMB on the basis of justifications made by the services through SOS. In a submission to Clay on 8 July, Fowler recommended an AA–1 priority for: (1) airfield construction machinery; (2) pipelines, bridging, and other landing equipment for the preinvasion build-up in the British Isles; (3) 100 percent of the maximum stockpile, includ-

[24] (1) Civilian Production Administration, Bureau of Demobilization, *Industrial Mobilization for War: History of the War Production Board and Predecessor Agencies, 1940–1945,* Vol. I, *Program and Administration* (Washington, 1947), pp. 295–300, 453–74. (2) Smith, *op. cit.,* Ch. VIII, pp. 45–48, 104–117.

ing replenishment; and (4) all nonorganizational equipment specifically requisitioned for combat operations. Other operational and miscellaneous supplies for the American Army should have an AA–2; all noncommon international aid supplies an AA–4 rating. A week later Clay notified Fowler of the lower ratings SOS was prepared to fight for. An AA–1 would be sought for (1) all matériel for the build-up in Britain, to include airfield construction machinery and landing equipment, (2) about 25 percent of the stockpile, and (3) equipment specifically requisitioned; an AA–2 for (1) equipment for overseas bases "certified as essential to operations" for airfield construction, for another 25 percent of the stockpile, and for filling requisitions, and (2) for miscellaneous supplies for the American Army; an AA–3 for the remaining 50 percent of the stockpile; and an AA–4 for the remainder of the international aid program. Although less than requested, these ratings placed the Engineer procurement program in a relatively favorable position. The trouble was that it took some time to get the new ratings approved and in the hands of the manufacturers and that allocations under PRP were not bound completely to them.[25]

On 10 June Hassinger learned that practically no steel had been allocated to construction machinery manufacturers for the third quarter of the year. He and Chorpening conferred immediately with Clay, with members of the Executive Committee, ANMB, and with representatives of the Construction Machinery Branch, WPB. All seemed sympathetic and anxious to help. Tractors stood to fare reasonably well because they were already allocated. It looked as if shovels and cranes would soon be allocated also. Three days after this meeting Hassinger learned from ANMB that if action were not taken at once all the tractor factories would be excluded from the July steel rollings. Efforts to get desired quantities of steel to the construction machinery manufacturers met with but partial success. The Caterpillar Tractor Company, for example, put in for 72,422 tons and received but 47,653.[26]

"The problem of production is becoming more and more serious," declared Hassinger on 23 June. "The War Production Board is having increasing difficulty in getting critical material for all types of construction machinery. Our losses in production in the 2nd quarter will be a great deal more than anyone anticipated. Unfortunately, these losses appear to be in the . . . large tractors . . . we need the most." Although exact figures would not be available until late in July, Hassinger was certain that "Caterpillar with their D–8 will be down . . . more than 36 percent . . . from the estimated production. . . . In this same class, the Allis-Chalmers with their H–D 14 will be down . . . more than 50 percent, and the Cleveland Tractor Company with their Model FD tractor will show a loss of nearly 60 percent."[27] An analysis made late in June re-

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[25] (1) Smith, *op. cit.*, Ch. VIII, p. 45. (2) Memo, C of Sup Div for Clay, 8 Jul 42, sub: Priorities for Sec. III, ASP, with 1st Ind, 17 Jul 42. AG 400 (4–17–42), Sec. 1. (3) Memo, C of Intnl Sec for Opns Sec Rqmts Br, 14 Aug 42, sub: Priority Ratings for Stockpile Items. 400.1301, Pt. 1.

[26] (1) Rqmts Br Equip Control Sec Alloc Subsec Diary (hereafter referred to as Hassinger Diary), 10 and 15 Jun 42. (2) MPR, Sec. 6, Nov 42. For a bibliography of MPR's see Adm Sv Div, DRB AGO, Descriptive List of Monthly Progress Reports of Headquarters Army Service Forces, September 1942–May 1946 (Inventory No. 200.02, Pt. 1, Washington, April 1950.)

[27] Hassinger Diary, 23 Jun 42. Unless otherwise noted, the remainder of this section is based upon entries in this diary.

vealed that the number of large tractors available would be about 87 short of troop requirements. The following month a sudden demand for over 200 heavy tractors for units to be activated under the new troop basis sent Hassinger flying to WPB to plead that some be released from the 15 percent reserved for civilian use. He came away with 115 tractors, but most of them were low-powered machines.

At the end of July, with the new AA ratings being flourished about by some producers, tractor manufacturers were trying to get steel on an A–1–a priority. They couldn't. Fowler notified WPB that there had been "continual shutdowns of assembly lines due to the lack of critical materials." [28] WPB's Construction Machinery Division robbed Peter to pay Paul. It transferred steel from the manufacture of relatively less essential types of construction machinery to that of tractors and shovels.

In August another shortage, that of diesel engines, which was itself partly due to lack of steel, began to interfere with the production of construction machinery. Following a directive from the President to push the production of landing craft, the ANMB had granted the Navy an AA–1 priority for General Motors diesel engines that superseded all other AA–1 ratings. It looked as if Allis-Chalmers would have to close three of its lines, and in fact by 20 August one line had been closed. The ANMB advised a deal with the Navy and if that failed an appeal to the General Staff. The Navy agreed to release some engines, but only if they went into Navy tractors. By the end of the month the question had gone to the General Staff. Within ten days representatives of the Navy, SOS, Ordnance, and Engineers had met and reached an agreement. Under its terms the Navy diverted some engines from landing craft, Ordnance some from tanks, and SOS some slated for export under lend-lease. The Engineers got all the tractor engines requested.

With chronic shortages on the one hand, urgings to expedite production on the other, and a mass of paper flowing in all directions and piled up in the middle, manufacturers themselves were hard put to maintain a patient attitude. It took more than four pages of single-spaced type for an official of the Caterpillar Tractor Company to detail his woes to the Production Division, SOS. He was amazed to hear talk of expanding the tractor industry at the very time his company was assembling tractors at about 50 percent of capacity. Some departments at Caterpillar, those that had sufficient materials, were operating at capacity. The result was an unbalanced inventory. "Our track-type tractor shipments are currently under the pace as of a year ago, while we have a thirteen million dollar larger inventory. I realize," he reported from Peoria, "that thirteen million dollars sounds like two bits in Washington, but to us it is still a whale of a lot of money, and it is a lot of iron." Improvement in the flow of paper would help a lot, he claimed. Almost up to the minute he started to write the letter Caterpillar was holding 398 tractors for lack of bills of lading, releases, and shipping instructions. Now the situation had been improved. "It was discovered that a civilian representative of the Corps of Engineers stationed here in our office was sitting comfortably on 68 Bills of Lading. He has also disgorged 30 more, but I am not quite sure whether it is he or Chicago who is responsible for the delay of these 30. It

[28] Ltr, C of Sup Div to C of Tractor Sec Constr Mach Br WPB, 24 Jul 42, sub: Priority Rating for the Tracklaying Tractor Industry. 451.3, Pt. 8.

has been said that we have not asked for these Bills of Lading—that is not true because we have asked for them repeatedly. And just exactly why we should have to ask for them in the first place is a bit beyond my comprehension." Having got a lot off his chest, the Caterpillar official added a conciliatory postscript: "After returning home I was more severely critical of ourselves than I was of Governmental Agencies while in Washington. Our skirts are none too clean either. We are going to do better." [29]

It was Hassinger's hope that Caterpillar would do better. The Engineers had a great deal at stake for they had settled upon the Caterpillar tractor for their own troops to the exclusion of other makes. Specifically Hassinger complained that the factory had supplied faulty information as to the number of tractors produced, that its requests for aid in getting critical materials were inaccurate, and that the factory had too few expediters. During the fall of 1942 the Production Division, SOS, and the Supply Division, OCE, worked closely with the officials of the Caterpillar Company in an effort to iron out their production difficulties. These co-operative efforts got results. By early October, Hassinger reported with satisfaction that Caterpillar had increased its expediters from a handful of persons to seventy "and are only beginning to find out that they can help themselves on many of the problems that they thought were without solution." He considered the situation well under control and predicted an immediate improvement in operations.[30]

There were at least two more bright spots in the picture in the fall of 1942. One was that during the weeks ending the 5th and 12th of September the tractor factories had for the first time since the beginning of allocation actually shipped more tractors than were scheduled. The other was the decision to centralize the procurement of construction-type cranes and shovels in the Corps of Engineers.[31] These encouraging signs could not hide the fact that Engineer procurement was behind schedule at the end of the third quarter of 1942. Production of landing mats, bridges, boats, searchlights, and precision instruments, as well as construction machinery, was less than scheduled.

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[29] Ltr, Chm of Exec Comm Caterpillar Tractor Co. to C of Prod Div SOS, 29 Jun 42. 095, Caterpillar Tractor Co.

[30] Hassinger Diary, 6 Oct 42.

[31] SOS Cir 63, 18 Sep 42, sub: Pier and Warehouse Mat Handling Equip.